STENCIL-CRAFT

HENRY CADNESS
F.S.A.M.

SIR ISAAC PITMAN AND SONS, LTD.
LONDON, BATH, MELBOURNE, TORONTO AND NEW YORK

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EDITED BY

F. MORLEY FLETCHER

FIG. 1.—Two plate stencil for church wall decoration. The figures are produced from one plate in varied hues of colour and suggestions are given for additional enrichment in the inter-spaces. (*a*) A branch of vine, or as alternative (*b*) a shield with symbol, (*c*) a ribbon with inscription. These suggestions are drawn only on a stencilled pattern and would be cut as a second plate for stencilling in graduated colour as described on page 8.

[*Frontispiece.*

STENCIL-CRAFT

COLOUR DECORATION BY MEANS OF STENCILLING

BY

HENRY CADNESS, F.S.A.M.

CRAFTSMAN, DESIGN MASTER MUNICIPAL SCHOOL OF ART AND ART MASTER MUNICIPAL SCHOOL OF TECHNOLOGY, MANCHESTER

AUTHOR OF "DECORATIVE BRUSHWORK AND ELEMENTARY DESIGN"

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PREFACE

IN this volume a craft of much artistic and industrial importance is dealt with in such a way as to make it of interest from an educational point of view, and to be a help in the training of hand and eye for the production and application of decorative work by pupils in any school or college.

Suggestions are made of a practical nature that will stimulate a taste for colour and develop the creative faculty inherent in most young people, as well as provide an interesting objective for the ordinary lesson in drawing and design.

For craftsmen and apprentices in artistic industries the record of a worker's matured experiences may prove helpful and, it is hoped, will encourage the exercise of initiative in carrying out original work for various decorative purposes.

There is no more useful manual exercise than that afforded by the handling of a knife in the precise cutting of patterns; and in arranging units and details in groups and repeats there is good opportunity for design and colour practice.

H. C.

19255

Modern Japanese silk crape stencilled with foliage and butterflies.

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STENCIL-CRAFT

CHAPTER I

Stencilling: Its Possibilities and Limitations

STENCILLING is a term used to express the process of decorating surfaces with ornamental pattern, applied by means of perforated plates of prepared paper or thin metal. Unlike brush-work, in which the ornament is produced by strokes of the brush directly drawn by hand (Fig. 81), or the mechanical process of imprinting or transferring colour by means of engraved wood or metal blocks and cylinders (Fig. 4), stencilling stands midway between these two extremes; and, although a cut pattern can be used mechanically (as is too often the case) it is capable of many varied treatments which give opportunity for individual expression and taste.

It is interesting to know that the term is based on the old French word "Estencillor," which is derived from the Latin "Scintillo" to scintillate or sparkle; also, that the word "patron" meaning a protection or defender becomes "pattern," a barrier perforated to allow colour to pass in ornamental forms to a ground below.

The preparation and cutting of the pattern is within the power of anyone who can draw the design, and after a few experiments, the careful worker can become expert in manipulating the knife so as to use it almost as a drawing instrument. The application of colour, by means of a flat-ended brush, or a sponge, presents but little technical difficulty, and the worker is at liberty to exercise his aesthetic taste and produce artistic results.

The average workman, even one incapable of designing and cutting the pattern, can easily reproduce the ornament with mechanical precision, and probably it is the want of sympathetic treatment in much of this work that has prejudiced the process in the eyes of those who are not familiar with the best possibilities, such as we see in Mediaeval English and in Japanese decoration. The charm of the process lies chiefly in the tasteful variation of tones and colours, and the facilities it offers, especially when the cost of other processes would entail a great outlay, as, for example, in printing a small quantity of posters or book covers, or, where special effects are required in harmony with a scheme of decoration, as on friezes, curtains and other surfaces.

Besides these uses, which are not only of artistic but also of commercial value, stencilling can be employed in preparatory processes, such as setting out repeating patterns for mosaic or inlay, embroidery, and lettering ; also for supplementary work as the addition of colour tints to line drawings, of lacquers to leather-paper, or other low relief work, and of masses of colour to printed textiles, etc.

As an educational craft it has great possibilities. The normal child revels in doing, in handworking, in

creating, and in this respect stencilling can be treated as a class subject which provides a happy means of cultivating an appreciation of beautiful form and colour, and gives interesting exercise to ingenuity and design. Its pursuit does not entail much cost for apparatus or materials. An ordinary room provided with tables or desks can be used, and the decoration of useful articles gives a definite objective, a purpose, which is the eternal condition of success in the pursuit of art as in any other calling.

Mr. Fisher, the Minister of Education, has well said, "make one branch of learning interesting and there is *danger* of making others interesting also." In this respect stencilling is not only of interest, but it is valuable as a training of hand and eye, with useful application in the industries.

Every craftsman discovers by experience that the material he uses in his work has certain qualities more or less beautiful which demand recognition, and in order to develop them fully he wisely acknowledges their possibilities and limitations. He seeks to obtain results in which there is a special character or style, peculiar to, and essentially different from that belonging to any other material; for example, in a woven textile fabric the crossing and interweaving of warp and weft threads at right angles give rise to the squaring of curved forms and to many varied textures. In embroidery, threads are applied to an existing fabric by means of stitches carried in every direction, so that they scintillate in an ever varying effect according to the play of light. In stained glass, gorgeous colour masses are built up together in grooved lead frames, which contrast by their blackness

with the transparent glass. Clay moulded by hand on the wheel gives pottery which can be glazed and patterned in the richest translucent colours, and developed or rendered permanent by firing in the kiln, and so with each material the process of working and the tools employed give a distinct quality which in the best periods has found the fullest appreciation of craftsmen, see Figs. 2, 3, 4, 6, and 7.

No process illustrates these points better than stencilling. It is a simple means of applying decoration for the adornment of useful objects, and in this respect is essentially a means of producing and repeating broad colour effects which may be flat, or of gradated tones and tints in which outlines play but little part. Geometrical figures are particularly effective, not only as patterns in themselves, but also as bases for motives of greater interest, such as leaves, flowers, insects, birds, and other creatures of beautiful shape. The rendering of these in light and dark silhouettes gives opportunity for display of taste and feeling in which attempts at imitation or realism seldom prove satisfactory. Suggestions of delicate tones almost breathed on the surface, or full rich colouring mottled or dabbled, will present textural qualities different from those obtained by any other process.

Ties and stays are necessary to the construction of the pattern, and these can be arranged so that they play a part in the design. Their skilful treatment will so add to its character that there is no necessity to obliterate them. On the other hand there is no need to make them unduly prominent for the sake of an affected display (see Figs. 8–21).

By means of a succession of stencils other secondary effects, such as background patterns of an additional colour, and details within the larger masses, can readily be produced, and the ingenious worker will find that variations can be made which will demonstrate many possibilities in an art that, at first sight, might appear to be of very limited scope.

Japanese stencil plate showing peonies and maple leaves. Hair and silk threads are used instead of ties. This plate has been used for stencilling on silk with discharge colours, giving a white pattern on an indigo ground.

CHAPTER II

The Making of Stencils

THERE is no better way of learning a craft than by practising it under personal instruction. The next best way is by illustrations and examples accompanied with explanations. With this object in view Fig. 22 is designed specially to include different stages of work and their developments. The drawing is made with pencil or charcoal on cartridge or other tough paper. The design is painted with water colour or ink to give a silhouette effect. The ties or stays, if not left, will be painted white. By using white chalk before painting the ties in with white, we can test the best position as regards both strength and effect.

When the design is completed the paper is then coated thinly with a waterproofing varnish, unless the paper has been treated before being drawn upon (p. 10).

The paper is now placed on a smooth plate of thick glass or other hard material, and all the dark portions of the ornament cut with a sharp pointed knife (Figs. 25–30), the ties being left so as to give a maximum of support to the pattern. The knife is held vertically and drawn towards the worker. Some designers cut the pattern by pushing the knife away from themselves, as in the Japanese method, but in any case the cuts must not extend beyond the painted shapes. Punches of various sizes are used for the spots (Fig. 109). When

completed this stencil plate is laid on the surface that is to be decorated, and is held in position by pins or by lead weights.

The colour is usually applied by means of a flat-ended hog hair brush. Figs. 31–35 C D are made in various sizes with long or short handles. For crisp sharp work the brushes are best if bridled or tied as shown at F ; if the hairs are long they are liable to bend with the pressure and crush under the stencil plate, producing a ragged effect. A and B are Japanese brushes of horse hair ; these are used with a rotary movement to rub the colour into the pattern rather than dabbling it with vertical pressure. E is a soft wood spatula used by the Japanese to spread the cotton printers' thick colour over the stencil so that a full quantity can be absorbed and pressed into the cloth. Other kinds of hog hair brushes can be made for the purpose by frizzling the extremities of the hair on a hot iron plate to produce a flattened end. For coarse stippled textures a sponge can be used to dabble the colour, or a smooth effect can be obtained by rotary movement of the sponge. Care should be taken to prevent the colour from flooding under the plate and to avoid breaking the ties by rough usage. The air brush or spray can be used to give the most delicate effects.

Fig. 22A gives the effect after the plate has been removed, and of course, it is only one of the many varied effects possible with a single stencil.

At this stage even though we have not produced the rich effect seen in Fig. 22C, yet for some purposes this simple treatment is quite sufficient.

In order to complete our task a second stencil-plate

2—(1100)

is made by stencilling the pattern just used on to a sheet of prepared paper. Before removing it, key-cuts are made by cutting through both plates so that they can be fitted to register accurately. On the interspaces of this second plate smaller details are drawn and carefully painted. These only are cut on this plate, and it is fitted on to Fig. 22A, so that both key-cuts fit exactly. This secondary pattern can then be stippled to complete the effect.

An alternative treatment can be produced by cutting the ground away in the second plate, leaving a marginal line round all the ornament (Fig. 22B) instead of the fine details. The ground spaces are then cut away and the colour stippled through the perforations. Great care must be taken in making the key-cuts, and in fitting the pattern accurately.

A third or a fourth plate can be used for more elaborate work, but usually the simpler schemes are more satisfactory. These plates form a set, and can be applied in consecutive order, using different tones or colours according to the effect required (Figs. 23 and 110).

It is possible to cut the whole of a pattern on one plate, and to use screens or flaps to cover one part whilst another is being worked. Thus, different colours can be applied without need for registering, as each stage is completed before the plate is removed. The shields are small pieces of thin card, cut to shape and placed so as to expose only that part of the design intended to be of a certain colour. When many repeats are required, these shields can be attached by means of paper hinges to the stencil plate, so that they flap over exactly to the same position every time.

It is obvious that the life of a pattern is shortened by the weakness resulting from so many perforations. On the other hand, a perfect fitting of parts is ensured without the need for key cuts and registering. Where large quantities of work are required the multiple stencils enable a set of workers, each with his own part of the pattern and its colour, to follow in succession, and so to economize time and labour.

Old Japanese stencil plate showing peonies, butterflies, and fans, on a hexagonal diaper in which another pattern is to be used. Hair ties have to be employed although the pattern is well tied in the cutting.

CHAPTER III

Materials and Tools

THE stencil-plate should be thin, flat, flexible, and waterproof, and made of material easy to cut with a sharp pointed knife. Paper of a tough, fibrous nature, such as strong cartridge or Whatman Drawing Paper, is most suitable for general purposes. Smooth brown paper serves well for bold work, thin cardboard for rough purposes, and thick smooth note-paper is very good for small, fine work.

It is necessary to make the paper waterproof, otherwise it will expand and absorb moisture when water-colours are used. This can be effected by coating the paper on both sides thinly with boiled linseed oil, to which a little turpentine has been added so that it will penetrate the paper. This makes it tough and durable, and partly transparent like tracing paper, but it takes a few days to dry. For greater speed a mixture of turpentine and japanners' goldsize dries very quickly, and a saturated solution of shellac in methylated spirits is quickest of all, and most commonly used. It can be obtained ready for use, and is known as French Polish. Another mixture is Patent Knotting, a solution of shellac used for stopping the absorption of paint by the knots in newly painted wood-work. These waterproofings can be applied with a flat hog-hair brush, either before or after the design has been drawn upon

the paper. The transparency of the oil-prepared paper enables it to be placed over the design sketched on another sheet, and a tracing made in detail ready for cutting.

For many purposes where paper stencil plates would soon wear out, thin sheets of brass, zinc, tin or lead-foil can be used. For brushing out on stained and embossed glass, marking bales and packing cases or other rough purposes, the advantage of lead or tin-foil arises from the possibility of close contact of the soft metal with the ground on which it is laid. It is obvious that such metals do not require waterproofing.

Metal stencil plates are cut with a steel graver. On thick metal a mallet must be used, as hand pressure is insufficient. Commercial trade marks and labels are usually cut in zinc and copper, and in glass decorations lead or tin-foil is used.

There are other processes for preparing paper, such as solutions of alum, water-glass, etc., but those given above serve for all purposes. Waterproof paper can be purchased from the paper-hangers, but it is most useful and economical to prepare one's own, as the coating can be applied after the design is drawn, or even after the cutting of the pattern, though in this latter case it is liable to curl a little in drying. Care must be taken to coat the paper all over so that it will be flat when dry.

For use with oil colour it is not always necessary to prepare the paper, as oils do not cause it to expand, but, we must remember that the waterproofing renders the stencil-plate impervious to colour, so that when the work is completed it is possible to clean the pattern with turpentine if oil colour is used, or wash with water

if water-colour has accumulated on it. If old colour is left on the stencil-plate it renders it brittle, so that it will easily break, and if cleaning is not done occasionally whilst working, the pattern becomes clogged and loses its sharpness.

As explained on page 6 the design is drawn in pencil or charcoal and painted in flat colour, the ties or bindings being arranged to play a part in the pattern. Figs. 8-21. give illustrations of ties based on the articulations of details in plant construction, such as bracts, stipules, thorns, etc. In birds or beasts the ties might emphasize the joining of the constructive parts, head, neck, legs, wings, and the feathers or feather groupings. Other difficulties of tying the pattern can be overcome and the stencil-plate strengthened by carrying stems to cross each other or branches to cross the masses (Fig. 70). The Japanese method of cutting many thin plates together and cementing them in pairs with silk thread or hair between, enables the suspension of detached portions and dispenses with certain ties as in Fig. 6. The accuracy of fitting depends much on the kind of adherent used to cement the two plates together, and in most cases the shellac solution is used. If by accident the ties on the ground spaces are torn, or cut beyond the drawing, they can be repaired by cementing a piece of prepared paper over the damaged part, using the knotting as cement, and allowing it to become partly dry so that it will stick firmly. When dry the portions of ornament can be re-cut. Repairs made with gum, glue, or other water adhesive will soften and break away in stencilling with water-colour, unless they are coated with the shellac solution.

The cutting is done on a smooth hard surface free from grain or texture that would turn the knife from the desired course. A smooth sheet of thick plate glass is best. Cardboard, zinc, or celluloid can be used, but they are soon destroyed, and the grain of a wooden surface hinders free cutting. The knife point does not suffer in cutting on glass to a great extent, as much pressure is not required if the knife is sharp. The knife should be of good steel, with a keen cutting point. The shapes given in Figs. 25–30 are useful, and a fine oilstone is indispensable. It is necessary that the cutting should be clean and sharp, and not in the least torn or ragged at the edges. The knife should be kept vertical, otherwise the edge of the cut will be bevelled, and on thick paper the lower side of the perforations will be smaller than the upper. Small circles and spots are difficult to cut with a knife, therefore steel ring punches of different sizes are used. For this purpose the pattern is laid on a smooth cardboard or sheet of lead, and the punch given a sharp blow or heavy pressure of the hand, so cutting clean discs, impossible otherwise. Punches can be made by filing steel or very fine brass tubes, of circular or oval sections, or even of leaf shapes. The Japanese produce stencil patterns composed entirely of punched designs giving a rich effect. Fig. 110 is a good example. Generally speaking, the boldest effects are produced by knife-cutting, and shapes that do not present much difficulty in cutting will be found most satisfactory.

For stencilling in relief, the pattern is cut with a fret saw in wood, the thickness of which will determine the height of the relief.

The stencil-plate must *never* be folded nor rolled, otherwise it will not lie flat. After use, plates should be cleaned, and stored between sheets of paper.

Decorative ground pattern, old Japanese; a hair network, invisible when the pattern is completed, suspends the lesser details.

CHAPTER IV

Materials for Stencilling. Grounds and Surfaces

THE grounds or surfaces on which stencilled patterns can be applied are numerous. Those most commonly used are plastered walls prepared with oil or tempera colour, so as to present a non-absorbent surface, or covered with paper, self-coloured or grounded with tempera. Plain wall-paper may be stencilled with oil, spirit or water-colour before it is pasted on the wails. In this form it was the forerunner of printed paper-hangings. For posters and panel decorations tinted crayon paper, Whatman, cartridge, and other drawing papers give satisfactory results, but thin soft papers are liable to crinkle and warp or shrink unequally as the colour dries. Very good effects can be obtained on the richly textured papers used for wall coverings.

Cotton, linen, woollen and silk cloths of coarse or fine texture—satin, twill or plain cloth, towelling, hessian, canvas, and fine sacking, are all suitable to work upon. The coarser textures give a rich broken effect to the colour, especially when transparent pigments are used.

Velvet and plush have a lustre which gives additional richness to the colour, owing to the play of light in the depths of the pile threads. This adds a peculiar softness to the decoration. Transparent colours are best, as

tempera colours clog the fibres and lose the lustre. Leather, leather paper, and leather cloth are excellent grounds for clear sharp stencilling, and are particularly suitable for book covers, casket cases, and door and wall panels.

It is important that the surface to be stencilled upon should be perfectly flat, so that the plate will lie in close contact. Textile fabrics should be stretched over a board evenly, and in line with the direction of the threads of the cloth in order to prevent distortion of the pattern when released. On very coarse grounds a strong stencil plate is necessary, as the downward pressure in working will cause it to crack at the edges of the ornament.

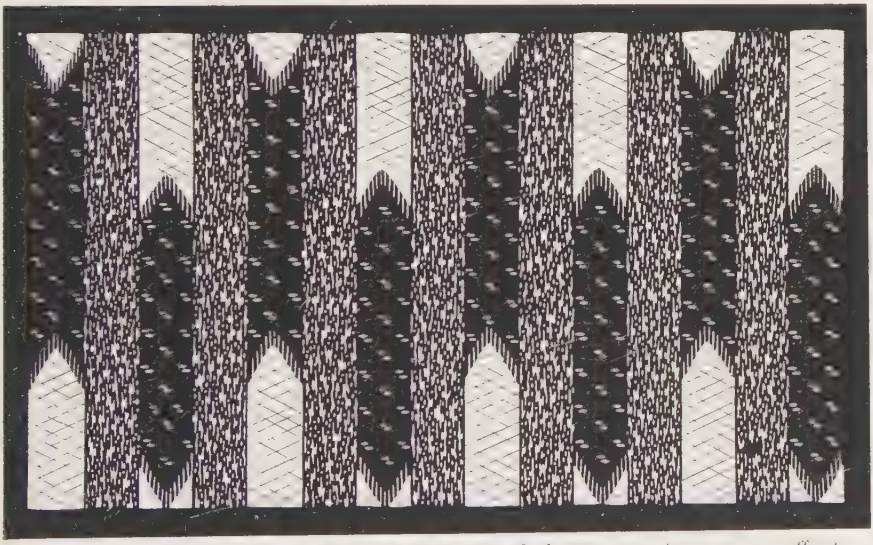
It is better to produce a dark colour by stencilling thinly and going over it a second time when dry, as thick layers of colour are likely to run under the edges, and it also aids in preventing the colour from penetrating to the back of the fabric.

In order to avoid staining the back of the cloth a sheet of blotting or other soft paper should be placed between the cloth and the board to absorb any colour that penetrates through thin fabrics. This is very necessary when stencilling on thin silk or gauze.

Wood surfaces for panels, frames, caskets and such work give endless opportunities for beautiful effects. The grain and fibre give an enrichment which can be developed by the use of stains and varnishes, and so serve as legitimate decoration of furniture without any pretence to imitate or pose as inlaying and marquetry.

Very good effects can be produced by using stains on light coloured wood by a "stopping-out" process. Lay

a wash of pale stain diluted with water; when dry, stencil those parts of the design required of this tint with spirit varnish thickened by exposure to the air, paint the next tint on the wood with light oak water stain, and then stencil the portions required of this colour; when dry, coat all over with a water stain of mahogany, and afterwards wash over all with spirits of wine, which will bring away the spirit varnish and with care will not remove the water stains, thus giving a satinwood and oak pattern on a mahogany ground ready for polishing or varnishing. Many more stencillings can be added, and in place of stains transparent water colours answer well.



A remarkably effective stripe pattern intended to suggest a woven effect and a counterchange of light and dark masses. A network of human hair is employed although the stencil-plate is otherwise strongly tied.

CHAPTER V

Colours for Stencilling

THE colours, paints or pigments, used in stencilling come under three headings—(1) Stains or dyes which penetrate the fibres or grounds on which they are laid. (2) Pigments mixed with oils or varnishes which harden on the surface by the action of the atmosphere. (3) Pigments mixed with water and gums which remain on the surface and are soluble in water.

The most permanent effects are produced on textile fabrics by vegetable and mineral substances and colour principles applied in a paste form—in which gum, starch, dextrine or albumen serve as the vehicle. These, after being applied to the cloth, are dried and subjected to steaming under pressure in a closed vessel, causing the dyes to penetrate the fibre. The excess paste is then removed by soaping and washing, leaving the figures dyed or stained to the shapes stencilled thereon. This fixing process demands care, and the compounding of colours requires considerable chemical and technical knowledge. The principal feature of the process may be summed up in the words, "fast bind, fast find," and after all, it belongs to the realm of the scientist. A reversal of the process is known as "discharge printing," and consists in the application of a colour-destroying chromate in paste form, printed or stencilled on cloth already dyed with, say, indigo.

When the paste is dry the cloth is passed through a bath of dilute sulphuric acid. The chemical action which then takes place eats away, or discharges, the colour, which, after washing, comes away, leaving the pattern white, or of some other colour which may have been added to the paste at the time of stencilling. Thus, a yellow can be substituted for the blue, or by using a weaker paste of chromate, the blue can be half-discharged, leaving a pale blue on the darker ground.

Another process known as "resist" is worked by stencilling or printing on white cloth with a paste compound which may have colouring in it. This paste has the power of preventing the ground colour from entering the cloth to the shapes stencilled thereon when plunged into the dye vat. Subsequent washing removes the paste, leaving the pattern light on a dark ground. It will be seen from the foregoing that practically all substance except the dye is removed from the fabric. The steaming and fixing enable the colour to stand washing or cleaning to a much greater degree than colours in other media, and it does not interfere with the feel or the natural folding of the fabric.

Pigments mixed with oils or varnishes may be either transparent or opaque. For use on white or pale tinted cloths the transparent are most effective. These can be obtained in tubes as used for picture painting, but as they dry very slowly it is necessary to add a little varnish or other drying medium. Oil-copal varnish gives a tough, elastic paint which is useful for stencilling on cloth with transparent oil colours. It takes about six hours to dry, and will stand considerable wear. Japanners' gold-size will dry more quickly, but it is much darker in

colour. Either of these may be diluted with turpentine, and although not as permanent as the dye colours on textiles, they stand considerable laundrying. Spirit-copal varnish is quick drying, and may be used for rapid work, but it does not admit of leisurely working, and is best in the hands of an expert. If necessary, the addition of a little boiled linseed oil to the oil-copal, or to the gold-size mixture, will delay the drying, and enable the better blending of the colours. The danger is that the oil in the colour will spread beyond the pattern. Opaque or body colour either in tubes or in powder pigment form can be mixed with these varnishes, but they must be carefully levigated so as to be free from grit. When large quantities are required they can be obtained in paste form ground in oil.

Terebine, a residuum of turpentine after distillation, is useful for painting on paper, and on textiles, as the liquid does not spread at the edges of the colour. It is largely used for posters and decorations on absorbent materials.

It should be borne in mind that oil colours are likely to become yellower in hue owing to the action of the atmosphere on the oil in their composition: on the other hand, they are most serviceable for decorations exposed to the weather or to much handling.

Water-colours are generally useful for practice, and for many purposes are sufficiently permanent. These can be obtained in tubes or pans ready for use, or they can be made by the worker, as follows. Vegetable or mineral pigment in powder form is mixed to a stiff paste by adding a solution of gum arabic or acaciae. This solution is made by dissolving the gum in water to the

consistency of thin syrup. The paste is carefully ground on a glass or marble slab with a palette knife, until it is quite free from grit, and a little water only is added to replace that which evaporates. If kept in a covered pot it remains moist, and if allowed to dry, it can be rendered fit to use by adding a little water and rubbing with the finger or a hog hair brush until it becomes creamy. Do not add glycerine to any of these mixtures as it prevents the colour from hardening.

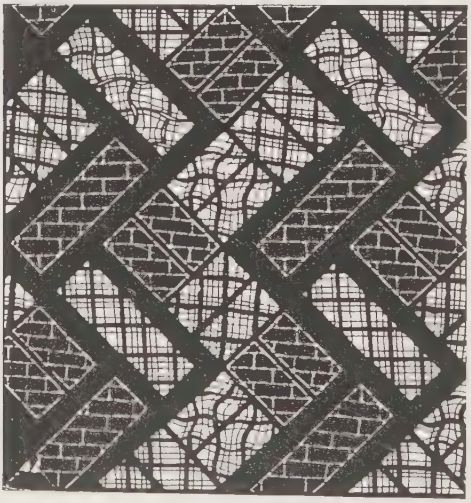
Tempera colour or opaque colour is frequently used. The pigments are mixed with a thin solution of gelatine or size about the consistency (when cold) of thin syrup. This solution is made by dissolving half an ounce of gelatine in 16 ounces of warm water. In winter it should be used in a slightly warmed state. Another useful form of tempera is made by mixing the white of an egg, or albumen, with a few drops of vinegar and an equal quantity of cold water. This is mixed with the powder pigments.

It should be remembered that these water mixtures are always in a soluble state, and moisture will affect them; they are therefore unsuitable for work that is much exposed or subject to handling. The egg tempera after drying remains soluble for a long time, but by the action of the atmosphere it ultimately becomes very hard and insoluble to ordinary solvents. The dull surface of tempera colours has a luminous quality, and as they rarely change colour they are in great favour for artistic purposes.

Silicate paints are sold under various proprietary names, Duresco, Distemper, etc. The liquids with which they are mixed give a hardening which renders them

more or less washable and useful from a sanitary point of view, and the ranges of colour give them great value.

By the use of a thick paste known as Gesso, relief patterns can be produced with wooden stencil plates. Soak and dissolve $\frac{1}{2}$ ounce of fish glue in a quart of warm water. Make a thick paste of whitening or of slaked plaster of paris. Mix equal quantities of the glue and the whitening. This is spread over the stencil plate, when fixed in position, by means of a spatula or straight edged trowel-like tool (Fig. 35) to the level of the wood stencil plate. The plate is then lifted, leaving the pattern in sharp relief.



An ingenious stencil plate. The pattern of geometric diapers based on the square is so arranged as to produce a diagonal plaid with loose threads waved in contrast to the straight weaving. Used for patterning on cotton fabrics in varied colours.

CHAPTER VI

Types of Patterns

ORNAMENT reflects something of the mind-working of its producers, the customs of the people and their environment. An instinctive love of adornment prompts man to enrich the objects he creates for use with little touches of decoration which enhance the inherent beauty of the carefully designed object. In the early ages he decorates his own person with colour markings, shells, and borrowed plumes. Whether it be for attraction, vanity, or protection (camouflage), as in the other creatures of the animal world, or for the gratifying of his imaginative soul, matters not for our purpose, but bald utility alone does not appear to have his approval, so he emulates the decorated world around him, chooses materials of rich colour and pattern, and ingeniously turns the gifts of the earth to his use as motives and ideas for decorating all his creations. He uses abstract invented geometric forms, suggestions from Nature's great pattern book of vegetation, of bird, and beast, and human form, adding interest and beauty to the things which, out of necessity, he has invented, and so he sets the seal of his joy on his handiwork.

Geometric Patterns.

Geometric patterns and other invented forms are universal in all ages and countries. Combinations of

3—(1100)

square, triangle, circle, in endless variety of lines and masses, ensure even distribution and balance, two qualities inherent in all good decoration. The preponderance of some simple elemental form sometimes gives a distinct character to the work of a period. For instance, in the Eastern and Gothic patterns, pointed forms prevail. Sometimes religious considerations restrict the use of natural motives, hence the most beautiful developments of geometrical interlacings, counterchanges and other repeating forms are almost solely employed, together with a peculiar conventional leaf-like form, giving character to styles associated with Mohammedanism, full of suggestions for the planning of new patterns which might be used to express or associate with modern ideas. Figs. 87-88 give examples suitable for stencil purposes, and they present very good illustrations of effective balance of ground and pattern, and of details contrasted so that they give a rich effect without confusion.

Indian, Chinese and other Eastern styles have many of these qualities, and in this respect, apart from their symbolic or other interest, are usually satisfactory.

Patterns incidental to, and arising from, construction often serve as the basis of decoration, for example masonry, brickwork, and parquetry, in which small material is built up into larger surfaces. Basket-work and weaving all suggest patternings which offer hints for decorative effects.

Floral and Foliage Patterns.

The Vegetable Kingdom has provided the majority of forms used in decoration. Leaves, flowers, and fruit in endless variety have been adopted, sometimes for

their beautiful shapes or colours, sometimes for their association in ceremonies and festivals, as symbols sacred or civic. Certain types of ornament derive their character from flowers or leaves, used at first actually, and, later, rendered permanently in the materials employed by the craftsman. The Lotus and Papyrus of Ancient Egypt, the Acanthus of Ancient Greece and Rome, the Vine and Lily in Mediaeval Christian Art are just a few which give distinction to such styles.

Until about the seventeenth century realistic imitations were seldom employed in decoration, but the craftsman selected and emphasized those qualities which could be best rendered in the materials he was beautifying, and, as he worked on decorative principles, he seldom missed his mark. It is interesting to trace the evolution of ornament, and to see how the craftsman not only sought inspiration in the great natural sources but also in his fellow craftsman's production. Frequently he has taken a suggestion from contemporary work, and has evolved something which is further removed from Nature, yet possessing a charm arising from the individual thought he has put into it. On the other hand, the adapting of second-hand thought has often brought about degeneracy, which has only been remedied by fresh and sincere study of the beauty of Nature—"worshipping at Nature's shrine." Figs. 55, 90 and 110 give examples of stencil patterns from Gothic, Indian, Japanese, and other sources. They are typical of the styles prevailing, plus the treatment imposed by the limitation of the process of stencilling.

It should be noted that parts of a plant may be adapted

as a motive, e.g. a spray of foliage, a flower or a leaf, but such a complete entity as a bird or a beast compels a rendering of the whole, if the suggestion of deformity is to be avoided.

Animal Forms.

Although vegetable forms are so full of interest and beauty, the forms of birds and other animals have always had the highest places in decoration. The life and movement of some of these beautiful creatures and their associations with man either as friend or foe, have attracted the liveliest attention. Unlike a plant, which can be used in part or as a whole, the animal is a complete creature capable of the most graceful movements and action. Each species presents distinctive proportions and character, and it is these qualities that are so charmingly conveyed in the decorative renderings used in heraldic and other symbolic ornament. Just as plants are treated decoratively in the best work, animals are rendered similarly, their chief characteristics being emphasized in a vigorous, spirited manner. The examples given in Figs. 63-67 show adaptations of such forms to the process of stencilling. It will be noticed that the chief structural divisions of the creatures have been emphasized. Egyptian, Assyrian, and Grecian treatments of the horse, the ox, and the lion, and Sicilian and Persian birds give excellent types of character renderings. Grotesque combinations of parts of different creatures have also a peculiar interest, arising from the sincere adaptation of forms in harmony with the materials and the processes employed, and often with symbolic or humorous meaning (Figs. 103-105).

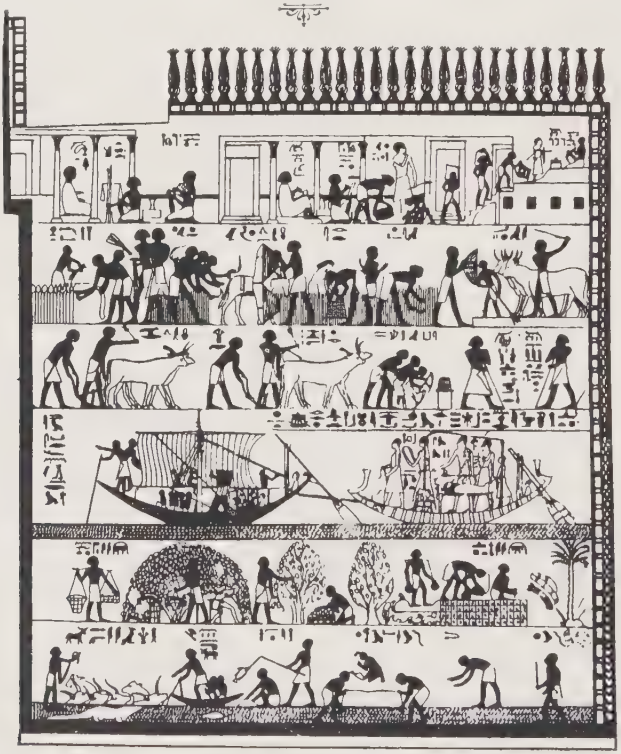
Successful treatment of such creatures will depend largely on the correct rendering of their proportions and the emphasizing of their main divisions, somewhat following the anatomical structure within which the lesser details will be under control. "The greater controls the lesser" is a good motto in Art.

Figure.

The nude human figure is too subtle and graceful for rendering successfully in stencilling, but with costume of almost any period there are unlimited possibilities of form and colour, especially with the use of the multiple stencil. Of course it should be borne in mind that the repetition of the same figure, unless it is extremely conventional, is seldom satisfactory; yet for a poster or reproduction of a placard, that treatment has its uses. Even in archaic decorations, a formal rendering of statuesque figures of angels for church decorations is often successfully used. Repeated forms can be used in this way, especially if slight variations are made in colouring. The drapery folds can be turned to use for defining the form of the figure, and also to serve as ties. The enrichment of the costume with ornamental patterns in lighter or darker tones of colour gives opportunity for rich contrasts and broken colour effects. The simple treatment compelled by the process gives excellent practice in the ingenious use of dress ornaments to serve as ties amongst the folds. Naturally profile views will present the least difficulty, as foreshortened views require suggestions of relief. In portraiture, mass shadow effects can be rendered, but the shapes of the shadows will demand accurate drawing, as every

projection gives a characteristic form on which the likeness depends, and much taste can be shown in the choice of position and treatment. Care must be taken to obtain the effect without need for retouching. (See Figs. 5 and 70–71.)

Bas-relief sculpture gives good suggestions and for study should be placed in relation to a side light, so that the shapes of shadows are clearly defined.



Egyptian wall decoration suggesting good treatment for stencil decoration suitable for the rendering of modern subjects. Note the beautiful balance of ground and pattern.

CHAPTER VII

Characteristic of Styles

ART has been defined, from one point of view, as the expression of thought in material, also as Nature passed through the alembic man, and a survey of its history shows that man has added interest to the things that he has created for use by ornament, which enhances the beauty inherent in the object and its material, without detracting from its usefulness. The motives or details employed for this purpose are usually chosen for their association in relation to life, and for the beauty of form and colour which they possess. After frequent use for a long period they become characteristic of the country and time of their usage, and the style is distinguished by the name of the country, reigning monarch, or the century, and it is thus associated with the history of the people.

This so-called historic ornament is of endless interest to the historian, the archaeologist, and others as a source of valuable information, in fact, much of the history of civilization is derived from the motives used for decorative purposes. The Art student will find that familiarity with the chief features of the various styles will give suggestions for decorative effect and treatment of material, as well as ideas from which new patterns can be evolved.

Many treatises are obtainable on this subject, and

it is not necessary here to give more than a very brief survey.

It has been remarked that Nature is the chief source of inspiration from which man has satisfied his desire for adornment, and from primitive renderings of ideas known as ideography he has evolved the most wonderful decorative sculptures and paintings for the embellishment of himself and his environment. Almost every thing that he has created is invested with a new character, crude or refined in accordance with the temperament of the worker and the degree of culture in his day.

In the best work of olden times, the decoration is always subservient to the whole scheme, just as in Nature. Unity and harmony prevail. Sound construction is not sacrificed to the decoration. For example, simple silhouettes are used in Egyptian ornament, very suggestive for stencil treatment; besides flowers, birds and beasts are used as symbols, generally in profile. The absence of perspective rendering and of light and shade compels the simplest treatment and gives a good decorative effect. Assyrian art presents similar characteristics, modified by the introduction of the leaf motives and of other animal forms peculiar to that country. Grecian decoration presents simple treatments of the forms used previously, but with such variations that they lose their symbolic character and become significant for their beauty of form, whilst the human figure as a motive for expression of the most noble ideals is treated with such refinement that the style presents a standard of perfection for all time.

Roman ornament shows complete adaptation of Grecian ideas, and the addition of florid patterns expresses

the spirit of the time. The common use of the thistle-like acanthus foliage becomes general, and, in the Pompeian decorations, stencil-like borders and diapers are frequently seen as well as brushwork patterns. Grotesque creatures are invented. Combinations of bird, beast, fish or vegetable, are of common occurrence, no doubt having an origin in the sphinxes and winged bulls of Egypt and Assyria, with attributes of the myths in which poetical ideas are symbolically expressed.

Christianity produced a remarkable change in the motives and their treatment. The figure of Victory is converted into the angel; the Satyr becomes the symbol of evil; the nude figure is seldom seen; decorated costumes show the weaver's art of patterning with richly coloured ornament which takes the place of sculpture; diapers consisting of symbolic details are substituted for the Roman and Grecian floral forms; the vine, the lily, the lamb, the dove and other creatures are used as attributes of the faith, and they produce a great change in the character of the effects. Mosaic inlays, stained glass, illuminated manuscripts, tapestry and silk weaving show the influence of Eastern art. This Byzantine style spread with the Christian faith throughout Europe, and presented many different phases until the introduction in the eleventh century of the pointed arch and gable construction, which ultimately superseded the round arch and the beam and column of previous times. Geometric and interlacing patterns, conventional trefoil and vine foliage, sacred symbols of birds and animals, are used for church purposes. In civic and military pageants such forms were used as heraldry. Not only had each armour-clad potentate

of Norman times distinguishing badges and arms, but his retainers bore the same, and cities and guilds had their emblems which provided motives for gorgeous displays and presented types of pattern of the richest character, largely influential in much of the decoration of to-day. The conventional renderings of animals and plants of the period of the twelfth to sixteenth century give excellent treatments in which the essential features of the object are emphasized, and all that is not essential is eliminated.

The revival in Italy of Roman and Grecian ornament in the fifteenth century spread over Europe, and is known as the Renaissance. It corresponded with new thought, and was coincident with revivals in literature and all learning. The details peculiar to the Roman style were revived in architecture, painting, and sculpture. Decoration sprang phoenix-like from the ashes of past centuries, and, with the addition of modern ideas, gave rise to most brilliant developments, particularly in craftsmanship of all kinds. The painted decorations and woven patterns of the Renaissance give good suggestions for adaption in stencilling for diapers, borders and panels, in which grotesque figures and animals are used in conjunction with tablets, vases, festoons and scrolls.

Eastern decoration provides beautiful motives based on floral and animal forms peculiar to the country of their origin, e.g. Chinese lotus, peony, Japanese chrysanthemum, iris, almond, Persian rose, carnation, as well as mythical creatures, such as birds and beasts, dragons and other monsters. But the love of colour is most striking in the carpets, silks, and pottery which have

always had a fascination, and through commercial intercourse have spread throughout the western world, serving to show the most beautiful balance and harmony of rich, ever-refreshing colour.

These notes are an attempt only to call attention to the value of a study of historical examples as a foundation on which new ideas can be constructed. A study of the social, religious and civic life of the people is necessary to a proper appreciation of their productions, and it is interesting, at least, to see how the new is evolved from the old ; how new thought is often clad in old garments ; how new garments can clothe old thought ; and how the inventive soul can build up equally beautiful qualities for all time. As Keats expresses it in the oft quoted lines " A thing of beauty is a joy for ever."

Sympathetic thought lives on to charm and inspire generations to come, and as Walter Pater says of the Renaissance, " It was an age of great personalities, many sided, centralized, complete, where artists, philosophers do not live in isolation, but breathe a common air and catch light and heat from each others thoughts." This revival spread throughout Europe ; in each country becoming varied according to national character, so that we have French, German, English and other phases of the Renaissance presenting distinct peculiarities which persist to the present day, from the refinement of the best Italian style to the extravagant Late French, showing a devolution and degeneracy from which Europe is still suffering.

Happily, recent efforts of great promise have stimulated a return to the spirit of old time, when the craftsman respected the qualities and possibilities of his

material ; when simplicity and soundness of construction received full consideration ; and the decoration not only developed the usefulness of an object, but gave it interest and additional beauty.

Leaf diagrams showing decorative effects arising from construction and subdivision of masses with beautiful details quite suitable for stencilling.

CHAPTER VIII

Consideration of Use, Position and Materials

IT is obvious that decoration is used to produce an enriched effect ; and it should be remembered that the object as a whole must be considered, as well as the position it bears in relation to its surroundings, and to the eye of the spectator. For instance, a pattern that would be satisfactory on a fan or similar small object might be of little value on a ceiling or other large surface. The size or scale of the ornament and the amount of detail introduced will be governed by these considerations, and by the coarseness and fineness of the material ; further, the type of pattern and its motive will be determined to a considerable extent by the purpose which the object is destined to serve.

Broadly speaking, the chief masses of ornament should present an evenly balanced distribution of beautiful shapes, when viewed from a distance, and, on nearer view, the smaller masses should give a rich, secondary effect ; and when viewed closely the finer details should give extra richness, without detracting from the larger masses. This *breadth of treatment* implies the *subordination of the lesser to the greater,* a rule observed in all good art as in any well ordered community, whether consisting of units of ornament or of human beings. The spaces forming the *background should*

have full consideration, and be nicely balanced in proportion to the ornament, so that a reversal of the effect would also be satisfactory. Contrast of tones, and tone values are of great importance.

In all good work the chief items are usually rendered most prominent by the greatest contrast of tone, and in Nature this is seen also. For example, a flower is given greater prominence than the leaf, and the leaf more so than the stem. In decorations similar use of contrast will be found most effective. Contrast of masses or quantities is equally important. Large and small clusters of leaves and flowers can be contrasted with the larger masses of birds or beasts to suggest texture effects ; on the other hand ornamental constructive lines, if geometrically arranged, can be made prominent or used as boundaries for changes of coloured ground. The linear types of patterns, although effective in wire work and wrought iron, do not suit well for stencilling in colour.

One other advantage in the process of stencilling lies in the opportunity it gives for experimenting with a pattern : by emphasizing one feature more than another, totally different effects can be produced with the same design. First by treating the pattern dark on light, then, light on dark, or by making one portion light and the other portion dark on a half-tone ground ; and again, by reversing the colours of certain parts of a pattern, still further effects are possible. Such experiments can be used as tests in designing patterns for production by other processes, such as cylinder or block printing for wall paper, woven, embroidered or other textile fabrics.

After all, common sense in the matter of applied design, as in other subjects, will prove helpful. The enthusiastic craftsman soon discovers that satisfactory results can be traced to certain causes, and he will make every effort to develop those which appear to be likely to yield still better effects ; therefore the student should exercise his inventive power and make many experiments and notes for future reference and guidance.

Photograph of wild flowers showing contrasts of foliage and an effective arrangement of flowers in large and small groups.

CHAPTER IX

Working Details

IN the chapter on the making of a stencil a brief description of the process gave a general insight into the working. We may now take a more detailed treatment and notice a few variations of the process useful for special purposes.

When the stencil plate is ready, the surface on which it is to be applied can be spaced or divided by striking lines upon it with a thin cotton cord which has been rubbed with chalk or charcoal and held tightly at the ends. A loop in the middle of the cord will enable it to be raised and suddenly released to transfer the chalk line in such a form that it can easily be wiped away after stencilling. Incisions or marks on the edge of the stencil plate, or at some points in the ornament, will ensure the accuracy of repeating and registering arranged to occur on the chalk lines or on to their intersections. Pins or lead weights will be used to hold the plate in position, the object being to keep the plate in close contact with the surface. Stencils cut in lead or tinfoil are not so liable to lift from the surface, and, for this reason, they are generally used for work in which the spray diffuser or air-brush is employed to convey the colour, as the current of air would be likely to blow under and raise the plate.

The tempera or water-colour mentioned should be mixed to a thick pasty consistency. The sponge or

brush, moistened with water, is rubbed thereon and applied to the stencil plate; or the colour can be of the consistency of syrup and applied directly. In either case, it should not be so fluid as to run under the plate, nor so stiff that it will not work up to the edges and corners of the ornament. The brush or sponge should be dabbled with brisk light touches applied vertically, or by a rotary movement, and not smeared or dragged across the plate.

The aerograph or air-brush is now largely used in textile and wallpaper works to spray a film of thin colour —sometimes a liquid dye or a transparent water-colour— through the perforations of the stencil-plate. The force is applied by an air pump, and the most delicate gradations and tints can be produced. A substitute for an air-brush, useful for small work, is provided by the ordinary spray diffuser used for perfumes. Some disadvantage arises mainly from the intermittency of spraying, but this can be partly overcome by employing an india rubber ball spray or a bellows blow-pipe. Metal stencil plates do not lift so readily as paper with the air pressure.

The texture arising from dabbling the colour is more decorative than the smooth even effect of the spray, and it can be varied by heavier or lighter pressure. Moreover, on textiles the colour is pressed into the surface by dabbling with the brush, and is altogether of a richer quality. A separate brush or sponge should be used for each colour, and each should be thoroughly cleaned after using.

In stencilling on textile fabrics, the Japanese are remarkably expert in using a spatula of wood, with which

the paste dye colour is spread by considerable pressure, so that it is absorbed into the fibre of the cloth, and the fullest richness of colour is obtained by this absorption, and it is fixed afterwards by steaming.

The stained glass worker uses the stencil for patterning borders and diapers in enamel colours. The powder enamels are mixed with water and an adhesive such as gum arabic or sugar, just sufficient to cause the mixture to adhere when spread on the glass evenly. When dry the stencil plate is laid on the surface of the colour, and a stiff brush (such as a nail-brush) is used to scrub away the enamel that is visible through the opening of the plate, so giving a clear glass pattern on an enamel ground. Firing in the kiln renders this permanent. The same process is used to produce patterns on over-glaze tiles, and for lettering on enamelled iron signs. Lead or tinfoil is best for such stencil plates when many repeats are required.

In glass etching and embossing a "resist" coating of bituminous paint is laid over the glass, and, when dry, soft soap is coated over this and the stencil plate of tin foil is pressed so as to adhere firmly; then stiff nail-brushes are used with a little turpentine, naphtha, or other solvent to remove the resist. The soap prevents the solvent from flooding under the plate, and powdered whiting is used with another brush to polish the pattern; after which, the stencil plate is removed, the soap cleared away with soft sawdust, leaving the glass plate with the resist intact, except where the glass appears in the pattern. In this state, after retouching any defects, the glass is coated with grease on the opposite side and is then immersed in dilute hydrofluoric acid, which

acts on the surface of the glass, and the pattern is rendered permanent. The resist is then removed with turpentine. Gold leaf washed on to the surface of a plate of glass with a weak solution of isinglass (about $\frac{1}{8}$ of an ounce to a gallon of water, boiled and cooled) may be treated ornamentally, the stencil process being employed to brush out the gold, just as in the case of enamelling already described. Glass signs and advertisements are produced in this way.

Bronze powder mixed with an adhesive varnish such as goldsize can be used for stencilling directly; or, by stencilling with goldsize only, the bronze powder can be applied with a piece of chamois leather when the goldsize is nearly dry or tacky. Extremely rich effects can be produced by glazing transparent colours over the bronze.

Other applications will occur to those of an ingenious turn of mind. For instance, one that yields good effects may be noted as it is useful for the production of small posters, book-covers, and such like. Stout water-colour paper or other non-absorbent paper is coated with a water-colour or stain, say walnut or oak; when dry the stencil plate is laid upon it, and a moistened sponge is used to rub away the colour visible through the perforations; when the pattern is clear, a fixative is coated or sprayed over the paper, and, when this is dry, tints of transparent water-colour can be washed over the pattern, and a final spraying of fixative will render the effect permanent.

CHAPTER X

Exercises for Class Purposes

THE amount of time usually given to Art instruction in elementary schools, is at present so little that the utmost economy of planning must be exercised in order to secure good results. The following suggestions may be helpful. It is assumed that freehand drawing from good examples of craftsmanship and from Nature have been, or are being, made as exercises in observation and in manipulative skill, and that lessons in designing and illustration have given some power of expressing thoughts and ideas. Arrangements of pattern should be drawn with pencil or brush from good types of ornament, and considered in association with the craft. These should always be made with the *intention* of working them out, even though they may not be carried out in the material. It must be borne in mind that all design, even "space-filling," should be considered in relation to some purpose, some objective assumed, if not actually possible, owing perhaps, to limited equipment at the service of the pupil.

The following exercises may have interest and give opportunity for ingenious developments.

(1) Make a design and cut a simple unit such as Fig. 43 and stencil it as a diaper on the plan given in Fig. 61.

(2) Design another unit such as Fig. 54, repeat this alternately with, say Fig. 43, similar to the arrangement shown in Fig. 62.

(3) Design stems as Fig. 37 or some geometric figure such as Fig. 36. Stencil either of these between the patterns Figs. 43 and 54. A reversal of this order of building up would give an equally interesting development from the geometrical point of view.

It will be noticed that each stage presents a complete effect, and each combination is satisfactory, the progress being from the simple to the elaborate. By such synthesis and analysis we discover the fundamental principles of design as seen in natural growth.

Thus details are built up into masses. A tree is an aggregation of branches bearing leaves of a certain type, clustered and grouped into beautifully shaped bunches in accordance with some geometrical plan of growth which is peculiar to, and constant in, the species. (Figs. 51, 52.)

The examples given of various details and plans will suggest many exercises in this kind of application, and, if accompanied by attempts to derive other units from Nature, they may serve as a means of developing original and individual effects. It is particularly interesting and instructive if two or more pupils collaborate in the production of such patterns, each contributing his unit and mutually aiding his colleague, so that the spirit of co-operation — a precious factor in sound education—can be fully exercised.

Figs. 101 and 102 show how units can be arranged to give different effects for borders, panels and repeats, and the following pages give further suggestions eminently suitable for school work as well as for the craftsman.

Ecclesiastic and civic emblems used in heraldry in mediaeval times are particularly suited for the stencil

treatment. The conventional renderings as symbols of living creatures are highly decorative. The lion and other beasts in various significant attitudes, the eagle, pelican, swan—resting or flying. Floral forms, such as rose, thistle, shamrock and others, show that the craftsman has emphasized the essential features of the objects so that they are full of vigour ; and when these are used along with shields and charges of crosses, saltires and other ordinaries, they give excellent scope for schemes of decoration for school pageants and festivals. Figs. 73, 74, 97 and 98 give such symbols and examples of their application to school banners, flags, awnings, screens, platform decorations, theatrical curtains and dress materials. Posters, placards and other advertisements offer a useful field of practice in artistic display. Small quantities of such things would be costly if produced by the printing press, yet by stencilling the expense would be but little. Tinted paper or good brown paper can be used, and tempera colour stencilled either for ground or pattern or both. If for exposure out of doors, varnish colours must be used, and cloth or canvas ground will be more suitable for permanent purposes.

There are many articles used for personal adornment and household purposes which can be decorated by stencilling so as to possess a distinct character and beauty, and kept in harmony with other objects to form a complete scheme without any pretensions to serve as a substitute, say, for inlay, embroidery, or other craft, but solely for its own effect. For example, the plain fabrics for blouse, skirt, smock, pinafore, collar, casement curtain, table cover and such things, usually embroidered or printed ; but these come under the operations of the

laundry, and the permanency of pattern is somewhat at stake unless dyes such as those used by the cotton printer are employed and subjected to chemical fixing, by processes almost impossible outside the mill. The suggestions given in Figs. 72, 99, 100 and 101 show possibilities of production in the manner described on page 43.

Excellent results can be obtained by using transparent colours mixed with varnish, and although they may not be fully fast to laundry and light they will stand much washing if soap is used in which there is but little potash or soda ; moreover, they will, in most cases, be as enduring as the fashions of the day.

For pageants and theatrical costumes varnish colours are perfectly suitable, and tempera colours can be employed to give effects quite as beautiful at a distance as the more costly decorations of embroidery and weaving.

Banners and flags are easily contrived of richly dyed mercerized cotton or sateen cloth and stencilled in varnish-colours or dyes with symbolic or heraldic emblems, mottoes, and other suitable inscriptions in contrasting colours, and gold or other metal powder. They also form beautiful decorations for class-rooms. If the width of the cloth is used the selvedge gives a firm trimming. Rich primary and secondary coloured grounds admit of light-toned patterns, and delicate schemes of colour are effective on light grounds. For larger work Bolton sheeting, either white or dyed, can be stencilled with bold borders and diapers as well as with heraldic bearings. Of course, silk, satin, velvet or other rich fabrics give an enhanced value, and, although it is not claimed that such colour work equals the

richness of embroidery and brocade, it has advantages in that it is much less expensive, does not increase the weight or thickness of the fabric, and does not carry with it the same anxieties with regard to handling. Some of the finest banners of mediaeval times were painted in tempera and oil colours on linen.

Suggestions are given on p. 44 and in Fig. 97 suitable for pageants and festivals. The designs might be repeated on various coloured cloths with different combinations of details so that no two would be alike—for instance, the wreath might enclose a lion or an eagle or a rose instead of the *fleur de lis*.

Figs. 72, 75, 76, 78, 100–102 suggest schemes for table covers, bed-spreads, curtains, and such like, and Figs. 77, 79, 80 present useful arrangements for dress collar patterns, fans, and lamp shades, or even the border of a garment.

Stencilled magazine-covers worked on coloured canvas or leather cloth in water-colour, varnished or fixed with a solution of shellac in spirits of wine, give a beautiful application, and distinguishing colour of cloth or pigment might be used for different subjects or volumes. (Figs. 106–107.)

Monograms and ciphers (Figs. 93, 94) give pretty units for repeating on hangings as diapers along with floral or other emblems.

On a larger scale such types of designs serve well for posters, the draperies of the figures being varied in colour, and small secondary floral patterns added for richer effect.

The decoration of walls, ceilings, etc., in the home, school, or church, forms a subject for endless consideration, but as the excellent trade journals of Decorative

Art already published deal fully with this branch of work, it is not necessary to do more than touch on a few essential points which may be helpful. With regard to walls, textile hangings of woven tapestry or brocade, or of embroidery, were originally used to cover rough stone or plastered walls in the interiors of buildings. The plastered walls invited decoration in rich mosaic or fresco painting. Ornaments derived from woven fabrics were stencilled on plaster, giving something of the effect of textiles with decidedly better sanitary results; afterwards rolls of paper were stencilled with similar patterns to paste on the walls, giving "paper hangings" and these, in their turn, were ousted by hand block or cylinder machine printing so much in vogue to-day. Hand-stencilling cannot rival in economy the elaborate work of the machine, but the very facilities of production have unfortunately in many cases led to over-elaboration and loss of repose, and herein lies the value of stencilling as it enables a scheme to be carried out under control of the artist. The production of crowded pattern is against the true spirit of this process. Simple treatments are most effective; in fact, recent revivals in wall-paper printing often aim at giving such effects, so completing an interesting cycle of evolution from the simple to the complex and back again. The use of water paints on plastered walls has enabled the decorator to produce schemes with special qualities of effect in accordance with personal preferences, so enabling a result in which everything contributes to a complete harmony.

The following hints may be useful in this connection—
(1) The scale, size, and type of ornament should be in

relation to the use and size of the room ; (2) the total scheme of colour and unity of pattern should be suitable to the furnishing and the occupants ; do not be afraid of using pure rich colour if the greater part of a room is in the shade ; (3) the use of varnish or other hard paints is necessary on fittings subjected to handling such as doors and windows ; (4) restraint should be exercised in the quantity of pattern used, avoiding over elaboration, and keeping rather to the use of a few simple beautiful units of details.

The frieze, door panel and ceiling are frequently treated with stencil patterns, and in schools and other public buildings symbolic ornaments associated with the use of the rooms provide suitable motives for decoration.

Attempts to imitate Nature are seldom successful, but reminiscences of beautiful effects are often satisfactory. For example (Figs. 23–24), a frieze of castles and trees reminiscent of morning or evening lends itself well to many varied treatments. Four stencils were used on a tinted ground which serves for the sky, (1) the castle and hills were stencilled ; (2) on this the middle distance trees and the mass of leaves for the large trees ; (3) the tree trunks and dark foreground trees, and finally, (4) the light clouds ; thus in four tones or planes it is possible to produce silhouettes of beautiful masses, each contributing to the unity of effect and each capable of treatment in colour reminiscent of sunset or sunrise glow, of silvery moonlight hues, or of the gorgeous pageantry of autumn tints against a blue sky. Gradated colours would enable further variations.

Fig. 1 (Frontispiece) would serve well for frieze decorations. Monotony of repetition might be avoided by

grouping the figure in varied quantities as well as in using different tints and hues for the draperies and wings. If worked in gold, bronze or aluminium on a dark blue ground, and tinted slightly afterwards with transparent colour, a very rich effect would be obtained.

It will be seen from these suggestions that there are many possibilities for the exercise of ingenuity in combining different units, in manipulating colour tastefully, and in turning to good account a process which has been much abused because of the very readiness with which its technical difficulties can be mastered.

The describing of technical processes, and of peculiarities of styles may be somewhat prosaic, but we must not be negligent of the aesthetic and poetical possibilities of the subject, for wherever man has devoted his whole soul to art, his enthusiasm is evident in the beauty which radiates from his work. An eminent writer speaking of the craftsman's wonderful work in ancient times, gives a glowing description of production under such conditions. "The sculptor hewed from the marble block the great white limbed Hermes that slept within it—on a wall of fresh plaster stained with bright sandyx, or mixed with milk and saffron, he pictured one who trod with tired feet the purple white starred fields of Asphodel. Panel and marble and linen canvas became wonderful as his brush swept across them—all life indeed was his, through form and colour he re-created a world. The potter sat in his shed, and, flower-like from the silent wheel, the vase rose up beneath his hands. He decorated the base and stems and ears with pattern of dainty olive leaf, or foliated acanthus, or curved and crested wave. Then in black and red he painted lads wrestling or in

the race: knights in full armour—on the rim of the wide flat cup he drew the stag browsing or the lion at rest, as his fancy willed it." Thus the enthusiast in past ages has given expression to his feelings, and has embodied his soul's working in material beauty for all time.

Japanese textile fabric stencilled with pattern of carp leaping a waterfall, a favourite symbolic subject rendered with wonderful vigour and character. Worked in light and dark blue with touches of pale golden brown.

CHAPTER XI

Educational Value of Stencilling

THE educational value of exercises in this craft will be evident from the foregoing pages. They are calculated to stimulate observation of beauty in form and colour as an accompaniment to things of use, the practice in drawing and design with a definite purpose in view gives scope for the outlet of taste and creative power, and in the hands of an enthusiast can develop into much more ambitious production.

There are many other applications of the process besides those dealt with here, but the main features of the craft have been given, so that the intelligent worker will, in the course of his practice, discover them, and by working in the manner suggested will readily come to express his own ideas and give them an individual character that will convey a corresponding amount of pleasure to others. By a collateral study of Nature and of art in the best periods his original work will be imbued with a quality that will render it permanently beautiful.

It must be remembered that in art, as in everything else, temperance is a virtue and extravagance in ornament is distracting. A little beautifully considered decoration is more valuable than a super-abundance even of good ornament. Therefore, let the motto be simplicity and refinement in both colour and pattern ; this warning is

necessary, particularly in stencilling, as the facility with which ornament can be produced gives a temptation which must be resisted.

There are other minor crafts of great interest, particularly such as wood and metal working, in which constructive exercises play a part, but they require special rooms and costly equipment. Stencilling is essentially a decorative craft, and although it may be said that good decoration should be associated with good construction, and that the construction should carry out the decoration, yet, as such an ideal is not always possible, no one can deny that practice in the application of dainty and tasteful decoration which helps to the bettering of environment must be highly beneficial to the creator and delightful to the beholder.

Figs. 71, 72, 99–102 are from examples worked by pupils in my daughter's classes at the Municipal Girls High School, Whalley Range, Manchester, and many of the other examples were worked in my classes or workshop. Produced as they were in rich appropriate colours, they proved particularly helpful to the art work in other directions, and created remarkable enthusiasm owing to their practical application in school exhibition festivals and entertainments. Such experiences of production must have a life-long influence in the future homes and surroundings of the pupils who so fully enjoy the working.

CHAPTER XII

Kindred Processes

REFERENCE is made on p. 39 to stencilling with the *aerograph* or air-brush, a process by which either transparent or opaque colour is sprayed over the stencil plate to give an evenly laid or a gradated effect. A pneumatic pump, worked with the foot or an engine, spits a fine spray from a pointed tube and showers the colour rapidly on to the object. The book illustrator uses the *splatter* process to splash fine points of black or white over perforations in paper patterns, so reviving familiar means of stencilling silhouettes on paper or silk, which a century ago were used to spray the profiles of ferns and other leaves laid thereon and pressed flat. A stiff hog-hair brush is dipped into liquid colour and drawn quickly over a knife edge or the teeth of a comb, so that the hairs flick or splash the fine particles of colour to fall between the leaf contours.

The lace pattern illustrated in Fig. 3 is to show the ornament suspended by stitches or *brides* similar to ties in stencils. Sometimes actual lace is used as a stencil over which the colour is sprayed, giving a somewhat vague decoration more or less definite according to the degree of contact with the ground.

An ingenious *stopping-out* process is the subject of a patent for stencilling. The plate is made by stretching a sheet of fine gauze cloth on a light frame and coating

it with a filling that will dissolve in water. Starch or gum paste answers well. When the filling is dry, the pattern is painted on it with a solution of shellac-knotting, or Japanese goldsize, which hardens and becomes insoluble, so that the filling can be washed away with warm water leaving the pattern solid on the gauze ground. Through this ground the colours are pressed with brush or sponge.

It is evident that this process dispenses with the cutting and use of ties, and that fine patterns can be produced with portions isolated and detached.

The process of breaking the surface of a waterproof stencil plate enables delicate work to be produced. Paper saturated with a wax solution is placed on a smooth metal plate and is drawn upon with a very small toothed wheel. The pressure of this tool makes very minute perforations, and the stencilling is effected by rolling an inked india-rubber cylinder over the waxed stencil plate superimposed on the ground which is to receive the pattern. It is obvious that large masses are difficult to do with this process, but it is specially adapted for writing or drawing in outline.

Another ingenious process is worked by means of a perforated stencil-plate which is placed on a slab of Harbutt's *plasticine*. When pressed equally it becomes embedded, so that the surface is level with the plasticine. A sheet of paper pressed on this will absorb sufficient adhesive matter from the oily surface exposed through the perforations, so that when dry powdered colours are gently rubbed over the print they will adhere only to the impressed pattern.

A process akin to that of the aerograph is used for

decorating surfaces of hard material such as metal, glass, and stone. The *sand-blast* apparatus showers grains of sharp sand by pneumatic force, and the stencil plate made of paper soaked with a glycero-gelatine solution, resists the attack because of its resiliency, whilst the hard surface exposed through the perforations becomes engraved, deeply if necessary. Glass and metal name-plates are engraved very rapidly by this stencil process, and it has had a great commercial success.

Old English silhouette cut in black paper with scissors, too delicate in structure to use as a stencil plate, but eminently suggestive for treatment as a stencil. Note the dark branches of the trees against the sky and the light conventional flowers against the dark ground.

ILLUSTRATIONS

FIG. 2.—Textile fabric showing textures peculiar to woven stuffs and weaves taking the place of fine details.

FIG. 3.—Old lace, showing ornament connected by "brides" equivalent to ties in stencil plates. This pattern gives good suggestion for distribution of ornament and for negative stencilling of light tones on a dark ground.

FIG. 4.—Cotton print, showing pattern without ties as it is printed by the engraved cylinder process; an example of good distribution which would not be distorted when the fabric is hung in folds or in cutting and joining for dress purposes.

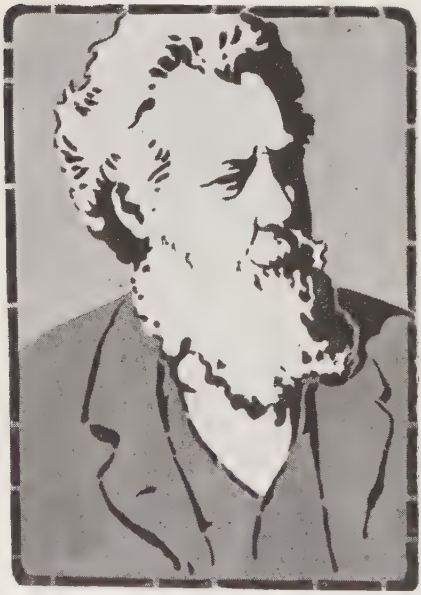
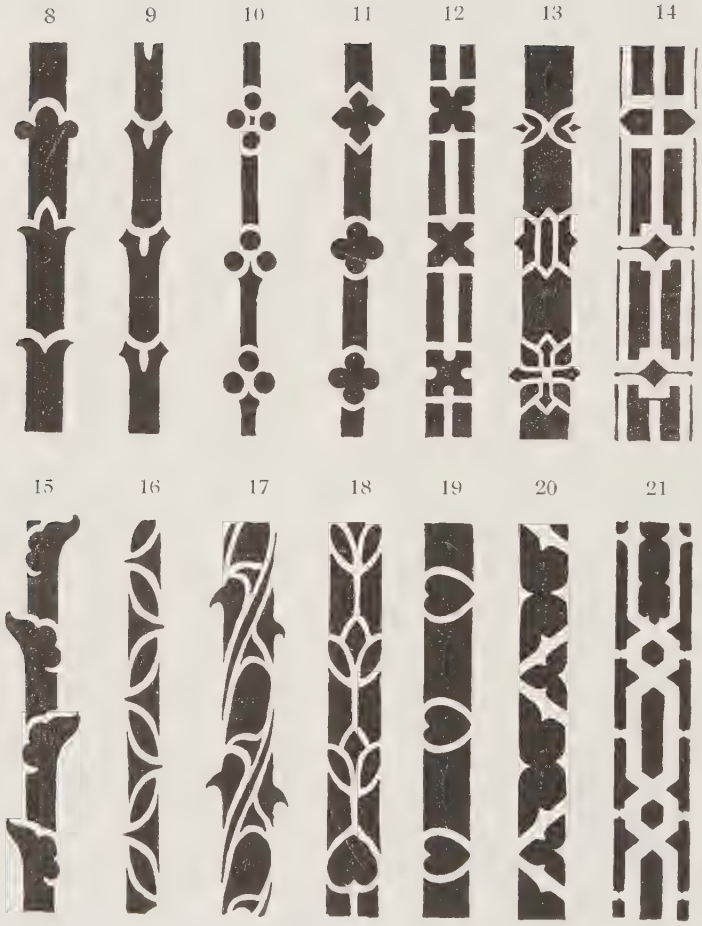


FIG. 5.—A three-plate stencilled portrait worked in strong colour on light brown paper; success in this treatment depends chiefly on the exact shaping of the shadow tones. The two pale tones are to be worked first, and the darkest one last. An alternative one-plate stencil could be used by stencilling the dark colour in indelible ink and washing flat tints over the background and coat, or by cutting out thin tinted paper and pasting on to the sheet for background and coat, and stencilling the dark colour over them.

FIG. 6.—Japanese stencil plate, vine pattern; of double silhouettes with punched holes in diminished sizes and tied veins. Ground spaces on which a secondary pattern would be worked are of good shape.

FIG. 7. — Metal plate saw pierced. Italian. Showing beautifully balanced ground and masses connected by contact. Suggestive for stencil treatment. Fret wood work is of this kind, and wrought iron work is built up with bars supported by direct contact.



FIGS. 8–21.—Stencilled line borders showing ties in the form of geometric figures, or of details derived from plants, such as bracts, thorns, and leaves. Fig. 21 shows a reversed negative effect after the manner of the lace pattern (Fig. 3), the details being attached by contact or with brides.

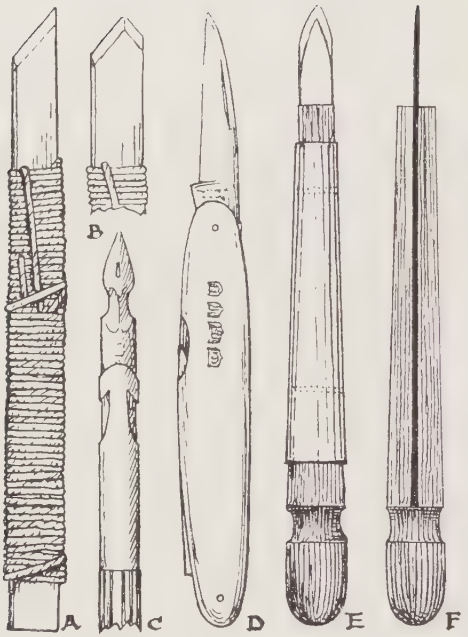
FIG. 22.—Stencil decoration showing progressive stages. A is painted as described on page 6; when cut, it is stencilled on another plate and the background cut out, leaving a line of equal width round all the forms (as in B) to serve as a ground stencil. An alternative would be to design fine details on this second plate to give a textural effect to background.

FIG. 23

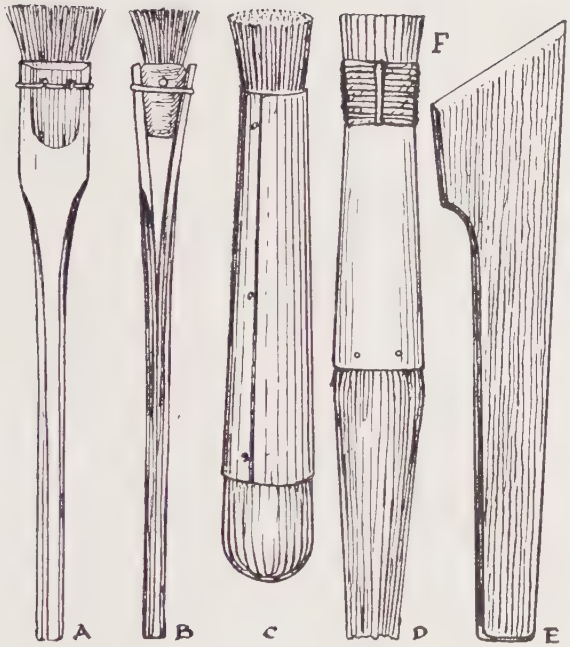
FIGS. 23, 24.—Four-plate stencil for Frieze decoration worked on a tinted ground for the sky—1st plate gives the distant hills in silhouette ; 2nd, the castle and near hills ; 3rd, the middle distance trees and mass of foreground tree leaves ; 4th the tree trunks and branches and nearest shrubs ; a 5th stencil has been added for the light clouds. Body colour has been used, the nearer tones being worked over the distant ones so that the outer edges of the masses are clearly silhouetted. Alternative colouring, such as autumnal or spring effect, or of quieter

FIG. 24

moonlight colour would be successful. Note—any one stencil plate could be used in other tones, for instance, the castle might be lightest of all or the sky made darker than the hills. Usually a good design will stand many variations; even such a pattern as this could have portions omitted, shortened or lengthened, or varied in treatment in the same scheme, remembering that the simpler decorative silhouettes are better than attempts to imitate Nature.



FIGS. 25–30.—Stencil knives. A—plain piece of spring steel $\frac{3}{8}$ in. wide wrapped with string and coated with shellac to form the handle. B—shows the sharpening which retains the diamond point as it is worn away. C—a vaccination pen without slit, used in a pen holder; it is excellent for very fine work on thin paper. D—a nickel-handled penknife, nicely shaped for the hand; the lower part of the blade should be wrapped with string to prevent accident from closing. E–F—a brass tapering tube which grips a slit-wooden handle and holds the steel blade securely. The blade A could be used in this tube.



FIGS. 31-35.—Stencil brushes made in sizes varying from $\frac{1}{4}$ in. to $1\frac{1}{2}$ in. in diameter. A and B—Japanese bamboo and horse hair used with a rotary movement to rub the colour into the pattern. C and D—English hog hair generally used for dabbling or stippling the colour with vertical pressure. F—shows the bridling or typing of a new brush with string to shorten the hairs and prevent them from pressing under the plate. E—a wooden Japanese spatula used to spread and press colour into the texture of fabrics in cotton print stencilling.

FIG. 36.—Japanese stencil, geometric design based on the hexagon, a favourite repeat on which numerous variations have been made by increasing or diminishing the width of the framing B and the consequent change in the size of the panel A, thus enabling more elaborate fillings. By curving the angles the ogee pattern is formed, see also Fig. 37.

FIG. 37.—Stencilled silk fabric, two colour, showing stages of each and completed portion—a quaint treatment of reversed growth on wave lines. A well-balanced pattern giving pretty shaped ground spaces.

FIG. 38.—Geometric pattern of diapered petals with stripe background. Three-plate stencil on cotton fabric; a fourth plate was also used for a background effect.

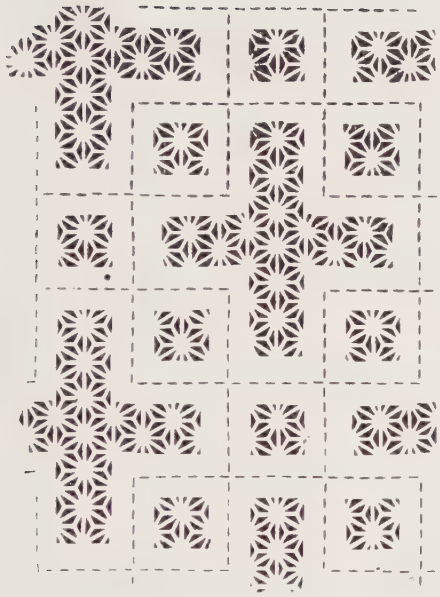


Fig. 39.—Geometric diaper Japanese stencil pattern based on the square plan and showing equal spacing of ground for a second colour framing.

Fig. 40.—Floral pattern for stencilling as a border or stripe repeat.

FIG. 41.—Examples of natural foliage showing veins and surface divisions. Suggestive for stencil leaf patterning, particularly when—as in autumnal leaves—the colour patches present the appearance of overlaid leaf shapes.

FIG. 42.—Border pattern of ornamental leaves showing veins and ties treated as part of the decoration giving enriched effect in stencilling.

FIG. 43

FIG. 44

Conventional rose patterns to stencil as repeats alternately with such Figures as 45–46. Useful also for border and frieze decorations.

FIG. 45

FIG. 46

Stencilled shamrock and thistle adapted for heraldic purposes, to repeat as diaper on draperies used for pageants and processions, or as individual units on bannerets with shields.

FIGS. 47 48 49 50

Leaves of thistle, oak, etc., treated for stencilling. Such forms can be arranged in clusters to give effective masses, or on straight or curved lines for running patterns. With colour gradated for the outer edge and a second colour in the centre, very charming effects can be produced.

FIG. 51 FIG. 52

Decorative treatments of natural sprays of foliage. Ivy and Briony, suitable for stencilling in gradated colour or tones; each leaf darker at the edges would ensure the silhouette and certain leaves might be made darker or lighter, so giving a little more variety.

Fig. 53

Fig. 54

Symbolic patterns treated in two-plate stencil effects with bold ties. To be worked on a large scale for distant effect as festival decorations on awnings, banners or stage costumes. Such bold work is useful in church decoration as wall diapers.

FIGS. 55 to 60.—Decorative leaves from woven fabrics. Suggestive for stencilled effects of "inhabited" forms which would be produced by a second stencil on the first silhouetted shapes.

FIG. 61.—Diaper of two units, showing simple effect, particularly suitable for folding fabrics.

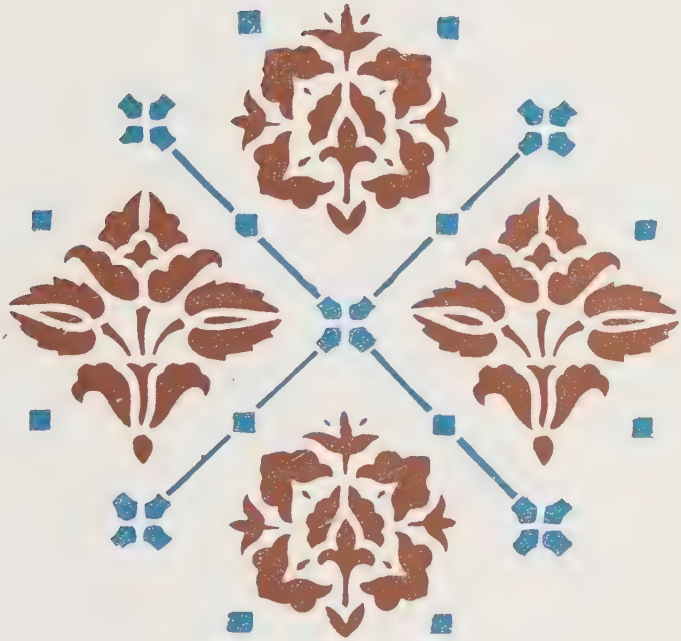


Fig. 62.—The pattern Fig. 61 is repeated here with the addition of lines which emphasize the geometric effect and enable a secondary colour contrast. Capable of innumerable developments.

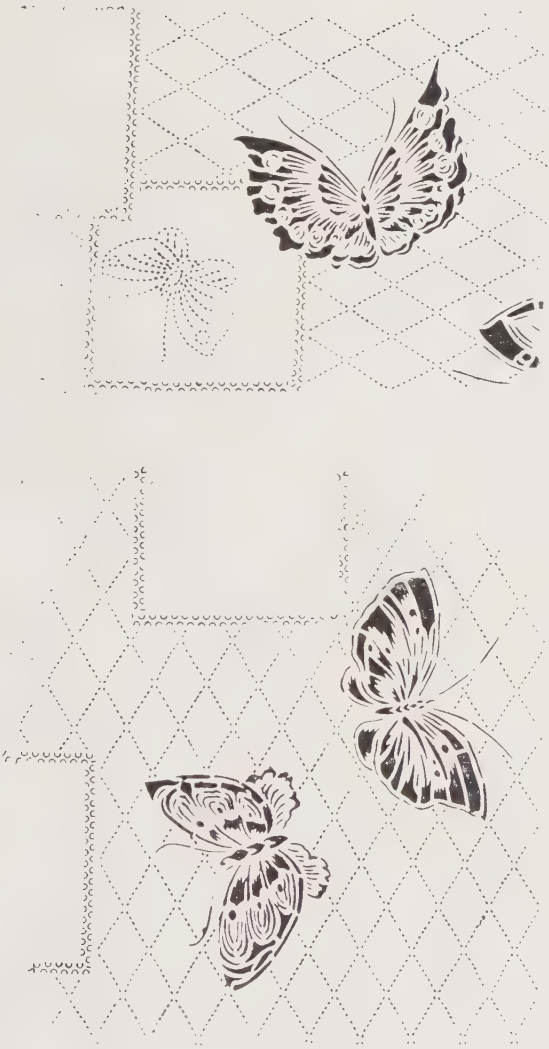
Fig. 63.—Heraldic Lion, stencilled on blue sateen cloth in gold bronze, for the decoration of a balcony during a coronation festival and for hanging draperies and flags. As a diaper alternate with other symbols. An example of suitable treatment of flowing hair and of ties arranged on an anatomical basis.

FIG. 64.—Mediaeval Lion rampant; it is reminiscent of the Assyrian and Egyptian Lions, with formally curled hair in clusters of pretty shape, giving a rich decorative quality. Stencilled with one plate in red on a silver shield.

FIG. 65. — Stencilled figure of a goose rendered from a book on Natural History. The ground plays a great part, as is often the case in Japanese work. It is cut on one plate, and if more massive effect is desired, the whole figure could be stencilled first, and this plate stencilled over it, thereby distinguishing the mass from the background.

Fig. 66.—Heraldic symbols of the pelican with its young, and Fig. 67 an eagle with wings erect, adapted from Gothic textile decorations of the 13th century. The feathers are simplified in order to obtain a broad effect when seen from a distance. The radiation and umbrication serve well to break up the masses of the body and wings.

It is usual to emphasize the character of these creatures so that they present, not only beautiful shapes in the whole mass, but that each sub-division is beautiful, and this largely depends on making the ties to follow the main divisions and contours of construction.



FIGS. 68–69.—Japanese diaper of punched holes with superimposed butterflies, part of stencil FIG. 110.

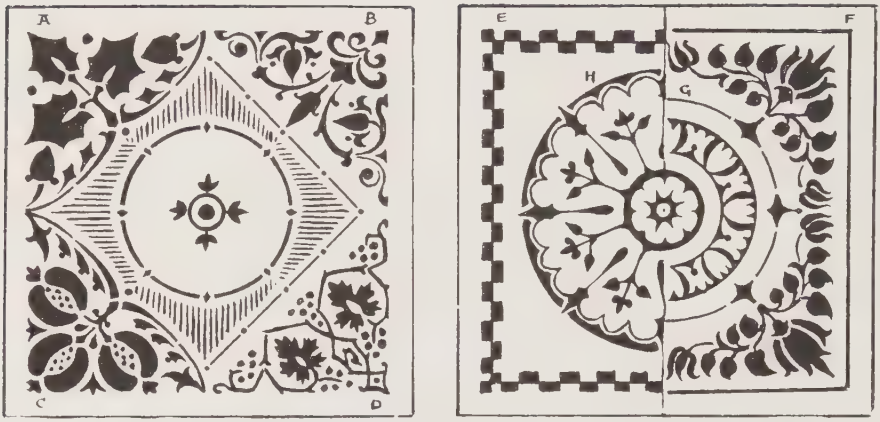
FIG. 70.—Symbolic figure of peace for a small poster or banner, showing appropriate treatment of drapery projecting the light silhouette of the figure and the use of a festoon of leaves to serve as ties across the drapery lines. To be worked with shields for the drapery or in one colour gradated. This design was used for one of a series of small school banners worked, by students, in various colour harmonies on sateen cloth.

FIG. 71.—Stencilled figures—used as a poster decoration and on a small scale for dance programmes, worked by pupils in a girls' High School.

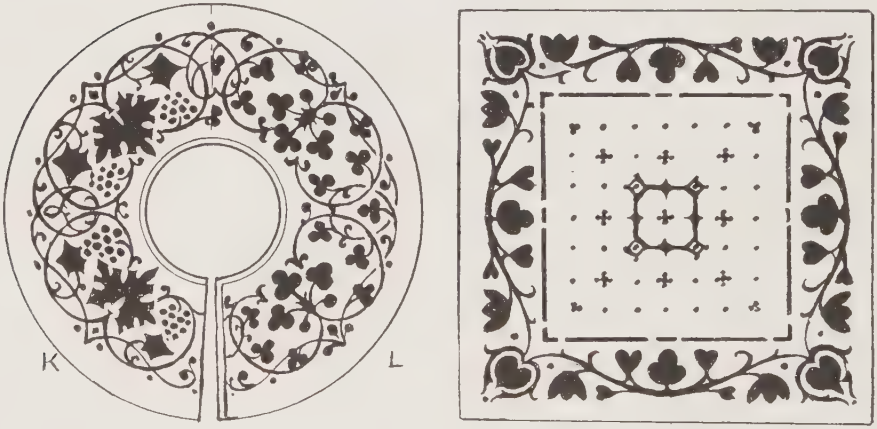
FIG. 72.—Two-plate stencil worked on rich silk for a teapot cover and adapted also for the ends of a rich strip of silk for the decoration of a sideboard or table. Pupils' work.

FIG. 73.—Eastern sailing boat, treated for stencilling in light colour on a rich dark ground, for a poster or large frieze decoration ; or on a smaller scale to repeat as a diaper alternated with another unit.

Fig. 74.—Norman ship after the style of the Bayeux Tapestry. Stencilled with one plate and shields for varied colourings. As a portion of a frieze procession, repeated in different colourings and quantities, it is very effective.



FIGS. 75-76.—Stencilled corners and fillings suitable for table covers and panels.



FIGS. 77-78.—Designs for stencilled covers. The ties are not indicated, but would be added as suggested on page 6.

FIGS. 79–80.—Designs for stencilled collar or round cushions, worked on silk or velvet.

FIG. 81.—Brush work design, showing light treatment unsuitable for stencilling, though quite good for free brush drawing.

FIG. 82.—Stencilled leaf, showing heavy masses of colour with veins treated as ties to form a secondary pattern.

FIG. 83.—Two-colour stencil for a lozenge shape panel, the flowers and vase cut on one plate, the leaves on another.

FIG. 84.—Stencil plate. A pattern based on a perforated silver plate with ties added.

Fig 85

Fig. 86

Lozenge shaped diaper patterns, the ground stencilled and the pattern sustained by contact with the sides. Note the even distribution and pretty shapes of the ground.

Fig 87

Fig 88

Designs for stencilled panels without ties, as the pattern is self-supporting. The geometric shapes enable a change of colour in the ground spaces.

Fig. 89.—Alphabet, mediaeval, adapted from an engraved memorial plate. The ground to be stencilled and the letters remaining attached. By the use of shields over the lettering the bars of ground between the lines can be stencilled so as to leave the letters detached. Note.—In lettering, simple proportions of the Roman type such as is used for the title page of this book should be used as a basis; if compressed or extended or treated ornamentally, each letter should have the same relative proportions and character. Good lettering is usually accompanied by nicely balanced spacing.

FIGS. 90, 91, 92.—Indian decoration, inlaid marble, giving excellent suggestion for stencilled panels. The construction and the varied details give pretty contrasts. It will be noted that portions of these designs could easily be adopted for the decoration of smaller panels, and experiments made in substituting other details would be excellent practice and give good results.

Figs. 93-94.—Monograms for stencilling to be worked in two colours of equal tones, the interlacing of the letters serves for the ties.

Fig. 95.—Stencilled letters strengthened with ornamental ties and serifs, without interfering with their legibility.

Fig. 96.—Stencilled leaf with inhabiting secondary pattern.

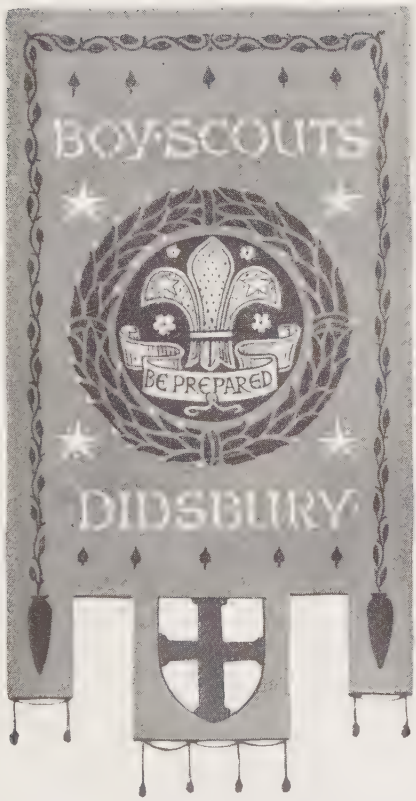


Fig. 97.—Flag stencilled in oil colours on a green sateen ground with gold and cream colour, the colour of the society, with other symbols of its aims. There is great scope for such flags and banners to be worked in rich colours for pageants and festivals.

FIG. 98. — Bannerette showing symbolic figures. Stencilled in oil colours on a dark ground. The figure of Peace (Fig. 70) and floral forms on other pages are suitable for this purpose. Each school could have its own colours and emblems worked by the children for the decoration of the classrooms and to carry in procession on festive occasions.

FIG. 99.—Silk bag stencilled with bronze, symbol of a lucky ship and small diaper. (Pupil's work.)

FIG. 100.—Centre panel for small table cloth stencilled in variegated colours. (Pupil's work.)

FIG. 101.—Decoration on the lower end of casement cloth window curtains, pale blue with bright contrasting colours. The vase and centre group of leaves were cut on one plate, and the side spray on another, and, reversed, these units can be recombined to form other patterns. (Pupil's work.)

FIG. 102.—Table cover, white linen stencilled in blue and orange. (Pupil's work.)

FIG. 103

FIG. 104

FIG. 105

Humorous figures stencilled on menus and Christmas cards, in full rich colours. (Pupil's work.)

7—(1100)

Figs. 106 and 107.—Book cover stencilled on book cloth or canvas in gradated and blended colours. Class work.

FIG. 108.—Japanese quaint diaper of two units stencilled in three colours, showing stages of development.

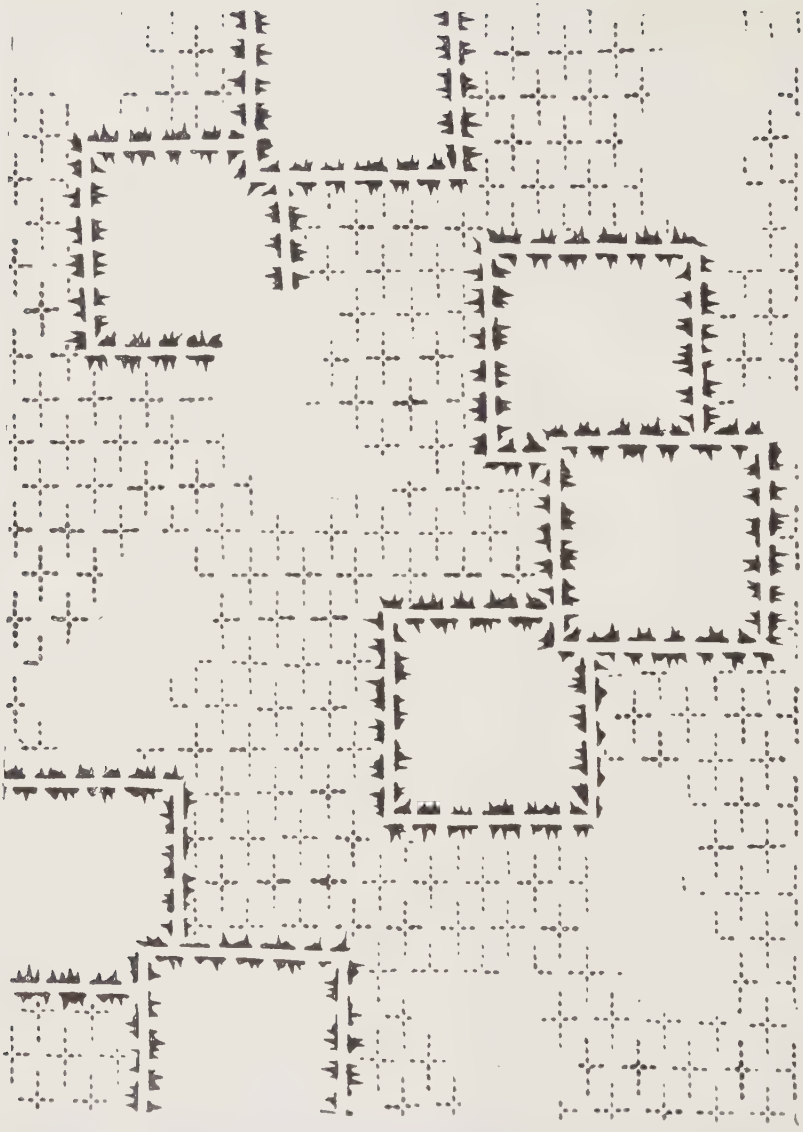


FIG. 109.—Stencil showing a pattern built up of punched details in geometric forms, interlacing and leaving spaces for interesting units as in Fig. 110.

FIG. 110.—Three-plate Japanese stencil, showing the addition of a second diaper in red, and butterflies in yellow. Solid floral forms will occupy the squares and give rich contrast.

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